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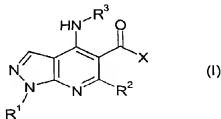
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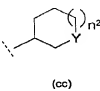
(54) Title: PYRAZOLO[3,4-B]PYRIDINE COMPOUNDS, AND THEIR USE AS PHOSPHODIESTERASE INHIBITORS



or



or



(57) Abstract: The invention relates to a compound of formula (I) or a salt thereof; wherein: R1 is C1-4alkyl, C1-3fluoroalkyl, -CH2CH2OH or -CH2CH2CO2C1-2alkyl; R2 is a hydrogen atom (H), methyl or C1fluoroalkyl; R3 is optionally substituted C3-8cycloalkyl or optionally substituted mono-unsaturated-C5-7cycloalkenyl or an optionally substituted heterocyclic group of sub-formula (aa), (bb) or (cc); in which n1 and n2 independently are 1 or 2; and in which Y is O, S, SO2, or NR10; or R3 is a bicyclic group (dd) or (ee); and wherein X is NR4R5 or OR5a. The compounds are phosphodiesterase (PDE) inhibitors, in particular PDE4 inhibitors. Also provided is the use of a compound of formula (I), or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for the treatment and/or prophylaxis of an inflammatory and/or allergic disease in a mammal such as a human, for example chronic obstructive pulmonary disease (COPD), asthma, or allergic rhinitis.



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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

EP0-Internal, WPI Data, CHEM ABS Data

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 00 15222 A (SQUIBB BRISTOL MYERS CO) 23 March 2000 (2000-03-23) claims 1,9</p> <p>---</p> <p>-/--</p>	1,56,61

☒ Patent family members are listed in annex.

8 document member of the same patent family

Alfaro Faus, I

INTERNATIONAL SEARCH REPORT

International Application No.

PCI/EP 03/11814

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; DALY, JOHN W. ET AL: "1-Methyl-4-substituted-1H-pyrazolo'3,4-b! pyridine-5-carboxylic acid derivatives: effect of structural alterations on activity at A1 and A2 adenosine receptors" retrieved from STN Database accession no. 122:45666 XP002270929 cited in the application abstract & MEDICINAL CHEMISTRY RESEARCH (1994), 4(5), 293-306 ,</p> <p>-----</p>	1,56,61

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/11814

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claim 62 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compounds.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

Information on patent family members

PCT/EP 03/11814

Form PCT/ISA/210 (patent family annex) (July 1992)